LiteShow[®] wireless freedom for your projector.

USER'S GUIDE



Declaration of Conformity

Manufacturer: InFocus Corporation, 27700B SW Parkway Ave. Wilsonville, Oregon 97070 USA European Office: Strawinskylaan 585, 1077 XX Amsterdam, The Netherlands

We declare under our sole responsibility that the LiteShow wireless projection adapter conforms to the following directives and norms:

EMC Directive 89/336/EEC, Amended by 93/68/EEC EMC: EN 55022 EN 55024 EN 61000-3-2 EN 61000-3-3 Low Voltage Directive 73/23/EEC, Amended by 93/68/EEC Safety: EN 60950: 2000

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July, 2004

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User's Guide Travel Restrictions

You must keep this User's Guide with your LiteShow adapter at all times when traveling in countries other than the United States of America.

FCC Warning

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. The Agency/Regulatory Approval for the computer's wireless adapter is solely the responsibility of the adapter manufacturer - not InFocus Corporation.

Canada

This Class A digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe A est conforme à la norme NMB-003 du Canada.

EN 55022 Warning

This is a Class A product. In a domestic environment it may cause radio interference, in which case the user may be required to take adequate measures.

Radio Frequency/Channel Restriction Information

CE approval is based on the EMC competent Authority review as depicted by Competent Authority ID number 0168.

Agency Approvals

NOM, CE

Other specific Country Approvals may apply, see please product certification label.

Version 1.2.6-29

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Introduction

Congratulations. You have chosen to step into the future of wireless projection by using the InFocus®

LiteShow[®] cable-free digital projection system. LiteShow is a powerful and secure wireless projection adapter which allows you to send sharp images from a PC or Macintosh computer to a compatible projector. LiteShow is easy to set up and configure, and it eliminates the need to carry and connect computer cables.



If you haven't yet set LiteShow up, you can go ahead and do so now by following the instructions in the *Quick Start Guide* that came with your LiteShow.

Be sure to register your LiteShow online at **www.infocus.com/service/register** to receive product updates, announcements, and registration incentives.

What is LiteShow?

The LiteShow adapter contains an 802.11b compatible wireless radio that works in tandem with the proprietary Lite-Show Manager software and a wireless LAN adapter or a USB wireless adapter connected to your computer. This combination gives you presentations that are as sharp and dynamic as the best tethered projector and computer setup.



LiteShow and the projector

The LiteShow adapter connects to a compatible projector by plugging its embedded M1 connector into a projector's M1-D or M1-DA receptacle. The adapter's latch mechanism is attached by tightening the two thumbscrews. If the projector's Auto-Source option is on, source selection in the projector automatically switches to the standard M1-D or M1-DA connector when data from the LiteShow adapter becomes available.

Please note that LiteShow is designed for presentations, such as Microsoft[®] PowerPoint[®] and Apple[®] Keynote[®] as well as digital photo slideshows and Internet content. LiteShow is not designed to support full-screen video.

LiteShow and the computer

The LiteShow adapter communicates to supported computers via the source computer's wireless LAN adapter (integrated or PC card) or USB wireless adapter. This communication provides a data path that results in wireless projection.

Managing LiteShow

The LiteShow Manager interface allows you to project to any LiteShow-enabled projector within range. It also lets you set application preferences and adjust the LiteShow adapter's settings. For example, you can rename the LiteShow adapter and the LiteShow adapter's network, or specify the LiteShow adapter's IP address.

Security

LiteShow utilizes 128-bit Advanced Encryption Standard (AES) security technology. Industry-leading AES data encryption ensures unprecedented data confidentiality.

Capabilities

LiteShow has a projection range of up to 300 feet (91.44 meters) and a data rate of up to 11Mbps. However, keep in mind that range and data rate can be lessened by distance, walls or other wireless devices. LiteShow also handles up to XGA (1024x768) resolution along with 32-bit color depth.

Feature Sets

One of LiteShow's capabilities is to switch from one network to another, and to find available projectors on other networks via the LiteShow Manager's Scan button. This is known as the **Advanced Feature** set.

Some wireless PC cards do not support advanced network switching, although you can still project using LiteShow. With basic network switching the Scan button is not operational. This is known as the **Basic Feature** set.

For more information on network switching and feature sets in LiteShow, please see the "Frequently Asked Questions" on page 26.

Infrastructure Support

This version of LiteShow supports Infrastructure connectivity, meaning you can connect to your organization's network, allowing you to access printers, servers, or the Internet, all while wirelessly projecting. See page 20 for more information on Infrastructure support.

Upgrades

For information on upgrading the LiteShow software and firmware, please visit the **http://updates.infocus.com** website.

Contents

Your LiteShow system comes with the items shown in the illustration below. Note that the wireless PC card adapter* is optional. LiteShow has two possible packaging configurations:

- If you bought the LiteShow system that comes with a wireless PC card adapter, you should have it in your Lite-Show packaging.
- If you already have an adapter, or wish to buy one on your own, and opted for the package that comes without a wireless adapter, it is not included in your LiteShow packaging.



 * optional depending on which LiteShow offering you purchased

About the documentation

Use the *LiteShow Quick Start Guide* included in the LiteShow packaging to install and set up LiteShow. The *LiteShow User's Guide* contains more information and can be used to fine tune your wireless projection settings to match your needs or to troubleshoot problems you may run into. You can also use the online Help to answer questions when operating the LiteShow Manager.

Both this User's Guide and the Quick Start Guide are available on the included CD as Adobe Acrobat PDF files.

If you need assistance

The first place to look for help is in this User's Guide. Be sure to check the guidelines in the Troubleshooting section on page 23. You may also check the Service and Support section of our website at **http://www.infocus.com/service/liteshow**.

You can also send us an e-mail at techsupport@infocus.com.

Our World Wide Web address is http://www.infocus.com.

Projecting via LiteShow

This section gives you more detail on LiteShow and its components. Reading this section should give you a better understanding of the LiteShow system and allow you to, if needed, make changes to it.

About the LiteShow Adapter

Before you begin projecting via LiteShow, take a minute to examine the LiteShow adapter. The LiteShow adapter is a well-constructed adapter for wireless projection. However, in order to keep it working for you there are several points that you need to pay attention to.

Note: If you have not attached the LiteShow adapter to a projector and installed the LiteShow Manager software on your computer yet, you should go ahead and do so now by following the instructions in the *LiteShow Quick Start Guide* that came in your LiteShow packaging.

The LiteShow adapter contains the following features:



LiteShow adapter tips

In regards to your LiteShow adapter, keep the following in mind:

- Be careful with the LiteShow adapter: do not drop it or otherwise mishandle it. Keep the LiteShow adapter in its protective sleeve when you are not using it.
- The hinge on the LiteShow adapter should be used for positional purposes only.
- The blinking LEDs on the side of your LiteShow adapter let you know that it is operational and capable of communicating with your LiteShow Manager.
- When you secure the LiteShow adapter to the projector with the two thumb screws, be very careful to not overtighten them.
- Please do not remove the dark plastic top of the LiteShow adapter unless you are performing a factory reset.

The LiteShow Splash Screen

Once you've attached the LiteShow adapter to a projector and powered that projector on, you should see the LiteShow Splash Screen, as depicted below.



LiteShow Splash Screen

The LiteShow Splash Screen is a small window that appears in the upper left corner of the projected screen. If you can see it, then you know that the projector is powered on, the M1 connector is the source, and that a LiteShow adapter is connected to it.

Once visible, the LiteShow Splash Screen displays the following informational items:

Name: The name of the LiteShow adapter. The default is myLiteShow.

Unique ID: A unique identification string that distinguishes your LiteShow adapter from others in the area.

WLAN: The name of the Wireless Local Area Network (WLAN) that the LiteShow adapter is connected to. The default is LiteShow.

Model: The model number of the projector the LiteShow adapter is attached to.

Version: The LiteShow adapter's current firmware version.

IP: The LiteShow adapter's IP address. It can be automatically assigned or manually assigned.

BSSID: Basic Service Set ID is the ID of the wireless device. In Infrastructure mode, this is the MAC address of the AP.

If you cannot see the LiteShow Splash Screen after you've attached it to a projector and powered the projector on, confirm that Auto Source is selected on your projector and that the M1 source is connected. If that doesn't help, try powering the projector off. Detach the LiteShow adapter from the projector. Wait a few minutes, until the projector 's LEDs let you know it is ready to be powered on, then reattach the LiteShow adapter and power the projector back on again.

If you are having other trouble getting LiteShow to project, consult the "Troubleshooting" and "Frequently Asked Questions" sections beginning on page 23.

The LiteShow Manager software

The LiteShow Manager client application is your tool for controlling the LiteShow adapter and wireless projection. We recommend that you periodically refer to the InFocus Upgrade and Downloads center at updates@infocus.com for software enhancements and service releases. To start LiteShow Manager, navigate to **Start>Programs>InFocus>Lite-Show** and select **LiteShow Manager** from the open folder. For Apple users, go to **Finder>Applications>InFocus>Lite-Show** and click the **LiteShow Manager** icon.

If you opted to place a shortcut to LiteShow Manager on your desktop during installation, you can double-click the **LiteShow Manager** desktop icon instead.

Once opened, the LiteShow Manager populates its list window with all LiteShow-enabled projectors found on your current WLAN.



LiteShow Manager with preferences revealed

The list window

The list window contains five columns:

- **Favorites**: When you check this box for a projector, the list window displays these projectors whether their status is Unknown, In Use, or Available. The Favorites column is helpful because you can quickly locate your most frequently used LiteShow-enabled projectors. Favorites are remembered by LiteShow Manager, so the next time LiteShow Manager is launched, the list contains these Favorite projectors, whether or not they are on the current WLAN.
- **LiteShow Name**: By default, the order of LiteShow-enabled projectors is by projector name. The first Available projector in the list is highlighted by default. An Available projector indicates that your computer is successfully communicating with the LiteShow adapter.
- Unique ID: A unique identification string that distinguishes your LiteShow from others in the area.
- WLAN: The name of the WLAN that LiteShow is using for wireless projection. This column is unavailable if your wireless adapter driver does not support the Advanced feature set. See the "Troubleshooting/FAQ" section of this User's Guide or the online Help if you are not seeing the WLAN column or have any questions.
- **Status**: The Status column indicates whether each projector is Available, In Use, or Unknown.

You can sort this list. By default, the projectors appear in the list in the order that LiteShow Manager finds them. You can click on a column heading to sort by that parameter. If you sort by Status, the order is Available, In Use, Unknown. If you sort by Favorites, the checked projectors are grouped together, and the unchecked projectors are grouped together. All others all sorted by alphanumeric entry.

Project/Stop Button

If an Available or Unknown projector is selected, the **Project** button is enabled. The **Project** button is disabled if there are no projectors found or selected.

When you select an available projector and click the **Project** button (or hit <Alt> <P>), the screen projection application begins. Once the screen projection application starts (that is, your desktop is shown as the projected image), the button toggles to **Stop** and the status of the selected projector switches to In Use.

One of three things can happen when you select a projector whose status is Unknown:

- The projector is found (using the latest network configuration information) and is available, and can project the contents of your desktop onto the projection screen.
- The projector cannot be found (it's either out of range or turned off), which generates an alert message.
- The projector is found but is in use, which also generates an alert message.

Scan/Skip Button

Note: If the Scan button is disabled, consult the FAQ on page 26.

The **Scan** button searches for LiteShow-enabled projectors and is active unless you are currently projecting. Once clicked, the **Scan** button opens an alert message that lets you know that current WLAN activities will be disrupted while the scanning process occurs. After that, the Scan button changes to the **Skip** button. The status message in the lower left corner of LiteShow Manager indicates which network is being scanned. If you want to force LiteShow Manager to move on to the next network, click the Skip button.

NOTE: On Macintosh systems, the Scan button becomes a Stop button and Scan/Skip/Stop options are available in the Scan menu.

If more LiteShow-enabled projectors are found, they appear in the list window.

If your computer has more than one wireless card that support Advanced Feature set installed, you will be asked which card you want to scan. You can choose to Skip the scan of a particular WLAN network.

Settings Button

The **Settings** button is enabled when a projector in the list is selected. Clicking it opens the Settings window. The Settings window, discussed on page 16, contains the Settings, Diagnostics and WLAN tabs.

Preferences box

The Preferences box is available at the bottom of the LiteShow Manager when the **Show Preferences** button is clicked. While it is available, you can click the **Hide Preferences** button to close it.

Performance Setting

The **Performance Setting** contains a slide bar with three settings for your desktop's display resolution that range from **Better Performance** to **Better Image**. **Better Performance** means a faster display of your desktop by the LiteShow-enabled projector, while **Better Image** means that the projected image will be sharper.

The slide bar defaults to the middle setting. The table below shows what the display resolution is for each setting:

System	Left	Middle	Right
PC	800 x 600 x 16	024 x 768 x 6	1024 x 768 x 32
	bit color	bit color	bit color
Mac	800 x 600 x	1024 x 768 x	1024 x 768 x
	thousands of	thousands of	millions of col-
	colors	colors	ors

The **Performance Setting** selection is invoked when LiteShow projects. When the projection stops, your previous display resolution setting (if different) is restored.

Enable encryption while I'm projecting

The default state for **Enable encryption while projecting** is disabled (not checked). When checked, it allows you to project utilizing 128-bit Advanced Encryption Standard (AES) security technology.

When **Enable encryption while projecting** is checked, a six-digit code number displays on the projected image screen after you click the **Project** button. You need to enter this code when prompted by a window that asks you to "Enter the code displayed by the projector your wish to use." Entering this code protects the data you are projecting to your Lite-Show projector.

Show Favorites

Checking this box allows the LiteShow Manager to show the most frequently used projectors as Favorites. When this option is left unchecked, the Favorites column is not available in the list window. Favorites are designated when you check the **Favorites** checkbox for a projector in the list window's Favorites column.

Disable Wireless Zero Configuration when using Advanced Feature Set

This option, which is turned on by default, allows LiteShow Manager to manage the wireless network and disable Wireless Zero Configuration. This prevents the Wireless Zero Configuration in Windows XP from automatically trying to discover, configure, and switch wireless networks. This constant searching for wireless networks can interfere with the Scan feature of LiteShow, causing your presentation to be disrupted. Wireless Zero Configuration can be found by right clicking My Computer>Manage>Services and Applications>Services>Wireless Zero Configuration.

This option only appears in advanced feature set in Windows XP. In basic feature set, this option is grayed out and Wireless Zero Configuration is on. The check box does not appear if you are using Windows 2000.

Settings Window

Note: When discussing "Settings," keep in mind that the Settings window options are for the LiteShow adapter, while the settings in the Preferences box are for your computer.

Clicking the **Settings** button in the LiteShow Manager causes the Settings window to open. When projecting, the **Set**tings button is enabled, but all of the settings in the Settings window are unavailable.

Set Password: When you click the Set Password button, the LiteShow Settings Password window opens. It is recommended that you set a password for your LiteShow system, as it keeps your LiteShow Manager adapter settings from being changed by other users. The following steps explain how to set your password.

iteShow Settings Password	
Creating a password will help prevent others from accessing your LiteShow settings.	
Enter Password	LiteShow Settings P
Retype Password	
The password can be between 4 and 16 characters long, cannot contain any spaces, and is case-sensitive.	
OK Cancel	

Password window

I Click the **Set Password** button to open the LiteShow Settings Password window.

2 Enter a password between 4 and 16 alphanumeric characters long in the top text field and then retype it in the lower text field to confirm it.

- 3 Click the OK button to save the password and close the window. The Settings tab is still open, but the Set Password button toggles to Change Password. The next time you click the Settings tab, all of its text fields and controls are read-only except for the Enter Password, OK, Cancel and Help buttons at the bottom of the tab window. When you click the Enter Password button, a password window appears and prompts you for the password. If the password entered is correct, the text fields and controls in LiteShow Settings are enabled and the Enter Password button toggles to Change Password.
- 4 Click **OK** to close the Settings window and return to the LiteShow Manager.

Note: If you prefer to have no password after setting one up, click the **Change Password** button, enter your old password, leave the **Enter New Password** and **Retype New Password** fields blank, and then click the **OK** button.

The Settings window contains three tabs:

• Settings: The settings provided in the Settings tab are: LiteShow Name, IP Address, Net Mask and Gateway.

Note: you can choose to obtain an IP address automatically or specify the IP Address and Net Mask. However, please be aware that setting a static IP address requires that all computers using the LiteShow-enabled projector be set to the same network.

- **Diagnostics:** The Diagnostics tab allows you to check to see if your computer's wireless adapter or USB wireless adapter is communicating with your LiteShow adapter. To see if there is communication, click the **Blink LED** button on this tab. The Diagnostics tab also shows you LiteShow version information and the MAC Address.
- WLAN: This allows you to select the **Connection Type** (Computer-to-Computer or Infrastructure) and the **Network Name**, and allows you to enable WEP, then enter a WEP Key and choose an Authentication Type (Open System or Shared Key).

Settings Tab

The fields in the Settings tab are populated with the selected projector's settings.



LiteShow Settings window - Settings tab

LiteShow Name: By default, the name is myLiteShow, but you should change it to distinguish it from other LiteShow adapters on the WLAN. The name you give your LiteShow adapter should not be longer than 32 characters.

NOTE: Asian characters are not supported in the LiteShow Name field. Some special characters may not appear the same on the LiteShow Manager fields and the LiteShow adapter splash screen.

IP Address: There are two IP options. The first is to **Obtain the IP automatically** which should work in most cases. The second option is **Use the following settings for the LiteShow module**. If your network administrator wants you to use specific address information ask him or her to provide you with an IP Address and Net Mask.

The Diagnostics Tab

The Diagnostics tab contains a button for blinking the LED. It also shows you LiteShow version information and the MAC Address.

юw		
1		
eShow module to identify Blink LI	.ED	
Show Version: 1.0.27		LiteShow Settings window - Diagnostics tab
MAC Address: 00:02:b3:ba:f4:59		
OK Cancel H	Help	
	ow Show module to identify Blink L Show Version: 1.0.27 MAC Address: 00:02:b3:ba:f4:59 OK Cancel I	Show module to identify Blink LED Show Version: 1.0.27 MAC Address: 00.02 b3 ba 14:59

Blink the LED on the LiteShow module: When you click the Blink LED button on the Diagnostics tab, the two green LEDs on one side of the LiteShow adapter blink for 10 seconds. This lets you know that there is communication between the LiteShow adapter and your computer's wireless adapter.

The WLAN Tab

The WLAN tab contains connection and security/authentication options. When you make changes in this tab, the LiteShow reboots and is temporarily unavailable.

Types of connections

There are two methods of connecting to a wireless network. Ad-hoc mode, also known as "computer-to-computer" or "peer-to-peer" mode, allows wireless devices to communicate with each other directly and without the need of an access point (AP). Infrastructure mode allows wireless devices to communicate with each other by first going through an access point. In this mode, wireless devices can communicate with each other or with a wired network.

Which method you choose depends on several factors. Choose Ad-Hoc mode if:

- you do not have a corporate network
- you do not have access to your corporate network via an Access Point
- you are a guest at a facility and do not have access to the network

Choose infrastructure mode if:

- you want to be connected to other network resources while you are projecting (like email, printers, servers, or the Internet)
- you want to project a network resource (like a web page or a presentation on a server)
- you want to do remote conferencing (meaning you can be presenting in one location and displaying your presentation at another location that has a LiteShow and access to the network)
- you want to manage multiple LiteShow adapters
- you want the protection of a WEP key

NOTE: If you plan to use Infrastructure mode in your office and Ad-Hoc mode when you travel, you must switch your LiteShow Manager to Ad-Hoc mode before leaving your Infrastructure environment. If you do not, then LiteShow Manager is still trying to communicate with your LiteShow via your AP when you are on the road. Since the AP is not available, you can't communicate with your LiteShow and can't change it to Ad-Hoc mode. So if you need to go on the

road and use Ad-Hoc mode, change your LiteShow settings BEFORE leaving. If you do not, you will need to do a factory reset (page 24) which sets the LiteShow to Ad-Hoc mode. Note that resetting to Ad-Hoc mode will remove any stored WEP key information which will need to be re-entered if you return to Infrastructure mode.

LiteShow Settings	
Selected LiteShow: myLiteShow Unique ID: 912fcb	
Settings Diagnostics WLAN	
Connection Type: C Computer-to-Computer (Ad-Hoc) C Infrastructure	
Network Name: Other WLAN Name	LiteShow Settings window - WLAN tab
✓ Enable WEP	
WEP Key:	
Authentication Type: C Open System C Shared Key	
Set Password OK Cancel Help	

Connection Type: This allows you to select either Computer-to-Computer (Ad-Hoc) or Infrastructure. In Infrastructure mode, you can connect to your organization's network, allowing you to connect to other network resources while simultaneously projecting with LiteShow Manager.

Network Name (when using Ad-Hoc mode): This is the network between your LiteShow adapter and your computer with a wireless adapter or USB wireless adapter. By default, the name is LiteShow, but you should change it to something unique. Keep in mind that if you change the name of a network, communication to the LiteShow is briefly disrupted. If you have Advanced Feature set, you should click the Scan button to find the newly-named network. If you have Basic Feature set, you have to change your computer to the new WLAN to see the LiteShow.

NOTE: Asian characters are not supported in the Network Name field. Some special characters may not appear the same on the LiteShow Manager fields and the LiteShow adapter splash screen.

Network Name (when using Infrastructure mode): The field changes from a text-entry field to a drop-down menu when you select Infrastructure mode. Choose an existing WLAN name from the list, or choose "Other WLAN name" and enter a WLAN. WARNING: If you enter a non-valid network name, the LiteShow may require a factory reset. See page 24 for factory reset instructions. Be sure you supply a valid WLAN name (note that WLAN names are case-sensitive). You have to change your computer to the new WLAN to see the LiteShow. You may also need to provide a new WEP key if you change the WLAN name.

WLAN

Other WLAN	
Enter an Infrastructure Network Name. We recommend avoiding na that are in use as AdHoo Network Names. WARNING: If your LikeShow is unable to associate with the infrastructure network you specily here, it will be unreachable and require a factory reset. WLAN Name:	^{may} Naming a new

Enable WEP: Click this checkbox to use WEP (Wired Equivalent Privacy, a security protocol for WLANs). Then enter the specific WEP Key for your network (usually provided by your IT department). The WEP key is either 40bit (10 characters long) or 104bit (26 characters long). If you are using a Macintosh, you must use Airport Admin to convert a Mac password into a valid WEP key. See page 32. Note that there will be a period of time between when the WEP key is sent to be authenticated and when you are able to project.

Authentication Type: Choose a method of verifying the WEP key between the wireless network interface card (NIC) and the access point (AP), Shared Key or Open System.

- **Shared Key:** With shared key authentication, the AP sends the client device (LiteShow) a text packet that the client must then encrypt with the correct WEP key and return to the AP. This is the default setting; only try Open System if this does not work.
- **Open System:** Open system authentication involves the LiteShow supplying the correct Service Set Identifier (SSID) to the AP. No encryption takes place.

Troubleshooting and Frequently Asked Questions

Troubleshooting

No LiteShow adapters appear in the list of LiteShow Manager. Try the following:

- Make sure that the LiteShow-enabled projector is in range with your computer and that the projector is powered on.
- Click the **Scan** button.
- Make sure your computer has a valid IP address.
- Make sure that your computer's wireless adapter is installed, plugged in, and enabled.
- Make sure that your computer's wireless adapter antenna is switched on or extended.
- Make sure that your computer's wireless adapter is configured to match the settings that display on the LiteShow splash screen. Refer to information on Infrastructure and Ad-Hoc modes on page 20.
- For more detailed information, visit the InFocus website at www.infocus.com/service/liteshow.

Performance is poor; projection takes a long time. Try the following:

- Physically move the computer so that it is closer to the LiteShow adapter.
- Check to see that there are no interfering 802.11b or 2.4 GHz devices, such as Bluetooth wireless devices or microwave ovens in use, in the area of the computer and LiteShow adapter. Cordless phones and microwave ovens may also cause performance problems.
- Move the slidebar in the Preferences box to **Better Performance**.

Resetting your LiteShow

To reset your LiteShow to the original factory settings, do the following:

I Remove the LiteShow module from the projector.



2 Grasp the module in both hands. Press firmly on the ribbed portion of the clear plastic top to disengage the locking tab. The tab is located on the back of the module. Then pull the top off of the module.



3 Pull the card out of the slot. Make sure to pull it straight out so you do not bend the connecting pins inside the module.

- **4** Replace the LiteShow on the projector (with the card still removed from the slot). A status dialog appears and provides a 30-second countdown for the reset. After several more seconds, the splash screen shows "Restored". The Splash Screen fields are updated with the preset values. The restore operation is complete when the following message appears on the projection screen "Factory Settings Restored". To cancel the reset, simply remove the LiteShow from the projector before the 30-second countdown expires.
- **5** Remove the LiteShow module from the projector. Replace the card by aligning it so that the colored label faces the back of the module and carefully inserting the card into the slot and pressing it into place. Make sure the card is fully seated. Replace the cap, then replace the LiteShow on the projector.

Frequently Asked Questions

The following are questions that you may have about the LiteShow system and its individual parts.

Q: The Scan button is not enabled, and the LiteShow Manager window shows "Basic feature set". What should I do?

A. What this means is that your current wireless 802.11b driver supports the LiteShow Basic Features, but does not support LiteShow's Advanced Features.

Network Switching

One of the features of LiteShow is the ability to switch from one network to another and to find available projectors on other networks via the LiteShow Manager's Scan button. When you look at the LiteShow Manager and see two LiteShow-enabled projectors, one is, for example, on the "LiteShow" WLAN (or network) and the other is, for example, on the "myCorporateNetwork" WLAN. You start projecting through the projector on the "LiteShow" WLAN. With a wireless 802.11b driver that supports network switching, you can stop projecting through the "LiteShow" WLAN and switch to the projector on the "myCorporateNetwork" WLAN. This is known as the **Advanced Feature** set.

With basic network switching the Scan button is not operational. This is known as the **Basic Feature** set.

However, when the Advanced Feature set is not supported, you have two options:

- Update your wireless network driver or
- Set up network profiles

Update a Wireless Driver

Contact your wireless hardware vendor's technical support for 802.11b driver updates. Most vendors now support WLAN configuration options that provide for advanced network switching features.

The Advanced Feature set in the LiteShow Manager is referencing this WLAN Network Device Interface Specification - Object Identifier (NDIS-OID) application, or advanced network switching, interface that allows PC applications to configure network properties. This allows LiteShow Manager to automatically switch networks and identify LiteShow Adapters on detected WLAN's.

In the event that your wireless PC adapter vendor does not support advanced network switching, refer to the **www.infocus.com/service/liteshow** website for known compatible 802.11b wireless cards.

Set Up Network Profiles

If you cannot locate an updated wireless adapter driver that fully supports advanced network switching, the option is to manually configure the networking card to match the settings of the LiteShow device. This is known as setting up a Network Profile. By using Network Profiles, LiteShow should work fine for projecting even though your wireless adapter driver has not been updated. You will not, however, be able to use the Scan button or automatically project to a LiteShow-enabled projector on a different WLAN. Once the settings match, wireless projection should occur correctly. This is normally done via a configuration utility that ships with the networking card. Different cards call their utility different names, but typical names are, "Profile Manager" or "Client Manager."

To set up Network Profiles, the following wireless LAN settings need to match. This allows LiteShow to work without a wireless adapter driver that fully support the Advanced Feature set:

- SSID (BSSID) or Network Name
- Network mode (ad-hoc or infrastructure)
- IP address and subnet mask (The IP address must not be identical. Only match until the last character)
- WEP Settings (For LiteShow the value is off)

If the LiteShow device is configured to use default settings, you can use your network card's configuration utility to create a profile that uses Ad-Hoc (aka, Peer-to-Peer) mode with the following settings.

- The SSID name is LiteShow.
- There should be no encryption.
- Channel can be set to 11, although it is not required
- Once this profile is created and selected you should connect within a short period to the LiteShow-enabled projector.

Q: Why are there no projectors available in the LiteShow Manager when the application starts?

A: There can be several possible reasons for this. They include:

• No LiteShow adapters are presently in operation

If your LiteShow adapter is presently in operation and you're not finding available projectors, please make sure that the LiteShow adapter is plugged into a projector and that the projector is powered on. The LiteShow Splash Screen displays if all is working correctly.

• Incorrect networking settings

The following wireless LAN settings need to match in order for LiteShow to work: Network Name, Network Mode, and WEP settings. Look at your networking properties and verify that the settings on the computer match the settings on the LiteShow device. The LiteShow Splash Screen displays the following LiteShow settings:

WLAN - or Network Name (also known as SSID (BSSID))

IP address - both PC and adapter must use compatible IP address and subnet masks

In addition, the following settings must match on both PC and adapter:

Network mode - Ad-Hoc or Infrastructure (LiteShow factory setting is ad-hoc)

WEP settings - WEP key and Authentication type (LiteShow WEP factory settings are disabled)

• Out of range

802.11b networks have a line-of-site range of about 300 feet. If there are walls or other 2.4 GHZ devices in the area, this distance can be decreased significantly. Try moving the PC closer to the LiteShow adapter.

• Scanning

It may be necessary to click the Scan button more than one time.

Q: I am using a Macintosh with an ethernet and a wireless connection but LiteShow is not recognized. Why not?

A: Check the Network panel of the System Preferences application. Choose "Network Port Configuration" from the Show popup menu. You should see a list of ports. Make sure that Airport is checked and placed higher in the list than any other checked port. To move Airport higher in the list, drag the item within the list to the top of the list.

Q: When projecting, I switched the computer's screen area to 640x480 pixels and the projected image disappeared. What's wrong?

A: Unfortunately, 640x480 pixels is not a supported mode. The supported modes are:

Windows

800 x 600 x 16 bit color

1024 x 768 x 16 bit color

1024 x 768 x 32 bit color

Macintosh

 $800 \times 600 \times$ thousands of colors

1024 x 768 x thousands of colors

1024 x 768 x millions of colors

Q: Why does my computer or my desktop icons flicker, or my task bar go blank when I click the Project button?

A: It is likely that your computer is switching resolutions. If you are unsure how to change the projector's mode, consult the User's Guide that came with it.

Q: Is it okay to remove the plastic top from the LiteShow adapter?

A: Unless you are performing a factory reset, leave the plastic top on the LiteShow adapter at all times.

Q: What does the star (or asterisk *) mean on the Splash Screen?

A: Should you see a star (or asterisk *) in the LiteShow Splash Screen, it indicates that USB services are not available on the projector. Contact InFocus Technical Support (see "If you need assistance" on page 6) to resolve this problem.

Q: How do I restore the LiteShow adapter's defaults to what they were when I received it?

A: See page 24 for instructions.

Q: My LiteShow worked fine at my office while in Infrastructure mode. Now I'm on the road and I can't communicate with my LiteShow. Why not?

A: You must switch your LiteShow Manager to Ad-Hoc mode before leaving your Infrastructure environment. If you do not, then LiteShow Manager is still trying to communicate with your LiteShow via your AP when you are on the road. Since the AP is not available, you can't communicate with your LiteShow and can't change it to Ad-Hoc mode. So if you need to go on the road and use Ad-Hoc mode, change your LiteShow settings BEFORE leaving. If you do not, you will need to do a factory reset (page 24) which sets the LiteShow to Ad-Hoc mode.

Q: I see a Security Alert message from Windows Firewall. What does this mean?

A: If you are using XP and Service Pack 2, this message appears due to the new firewall functionality. Simply select "Unblock this program, despite the security risk" and click OK to use LiteShow.

Q: I received the following message "Could not find the InFocus Mirror Driver Service," yet LiteShow Manager works fine. What does this mean?

A: This can happen if you are running LiteShow Manager under Windows 2000 with a "Guest Account" logged in. When LiteShow Manager opens, the InFocus Mirror Driver Service starts, allowing LiteShow Manager to operate as expected. If you start LiteShow Manager and then navigate to **Start>Programs>Administrative Tools>Services**, you can see the InFocus Mirror Driver Service listed with the status of "Started," despite the message. The message is in error and should be disregarded.

Q: I can't enter my desired letters in the WLAN name and LiteShow name fields.

A: LiteShow supports all western characters. It does not support Asian characters. Some special characters may not appear the same on the LiteShow Manager fields and the LiteShow adapter splash screen.

Q: I changed the WLAN name and now I can't communicate with LiteShow.

A: If you enter a non-valid WLAN name, the LiteShow may require a factory reset. See page 24 for factory reset instructions. When you change the Network name, the LiteShow reboots and is temporarily unavailable. If you have Basic Feature set, you have to change your computer to the new WLAN to see the LiteShow. In Advanced Feature set, this is done automatically. You may also need to provide a new WEP key if you change the WLAN name.

Possible causes of the communication problem are:

- WLAN does not exist
- the AP is not turned on or in range
- a misspelled WLAN name (the names are case-sensitive)
- an incorrect WEP key

Q: I'm a restricted PC user and the LiteShow response time is very slow. Why?

A: This involves the different methods used by restricted and administrative users for turning off Windows XP Network Zero Configuration. The process for restricted users takes longer.

Q: How do I get a WEP key for my Macintosh?

A: If you are using a Macintosh, you must use Airport Admin to convert a Mac password into a valid WEP key.

Tips for Best Use

The following are some suggestions to minimize problems with LiteShow:

- Use passwords to protect your LiteShow settings
- Use unique LiteShow names to avoid confusion

This suggestion applies to users with old and new versions of LiteShow:

• Update older versions of LiteShow devices and LiteShow Manager software to the latest version

Glossary

802.11: IEEE 802.11 specifications are wireless standards that specify an over-the-air interface between a wireless client and a base station or between two wireless clients, such as the LiteShow adapter and a computer's wireless adapter.

Access point: A base station in a wireless LAN. LiteShow does not require an access point, but it does support infrastructure mode and can use an access point.

Ad-hoc Mode: Ad-hoc mode, also known as "peer-to-peer" mode, allows wireless devices to communicate with each other directly and without the need of an access point. This is an Independent BSS (IBSS).

Advanced Feature set: LiteShow has the ability to switch from one network to another and to find available projectors on other networks via the LiteShow Manager's Scan button. This is known as the Advanced Feature set.

Authentication: The process of identifying an individual, usually based on a username and password. Two examples are Shared Key and Open Key.

Basic Feature set: Some wireless cards do not support advanced network switching, although you can still project using LiteShow. With basic network switching the Scan button is not operational and the WLAN column is not displayed in the List Window. This is known as the Basic Feature set.

BSS: In 802.11 systems, each access point and each wireless device are known as a Basic Service Set (BSS).

DCHP: Dynamic Host Configuration Protocol. DHCP's purpose is to enable individual computers on an IP network to extract their configurations from a server.

Encryption: The process of encoding data so that it is inaccessible during transmission.

Firmware: A type of memory chip that retains its content without electrical power.

IBSS: In ad hoc mode wireless devices can communicate with each other directly and do not use an access point. This is known as an Independent Basic Service Set (IBSS).

DCHP: Also know as Dynamic Host Configuration Protocol software. DHCP automatically assigns IP addresses to client stations logging onto a TCP/IP network. It eliminates the need to manually assign permanent IP addresses.

IEEE: Institute of Electrical and Electronics Engineers, New York, (www.ieee.org)

Infrastructure Mode: an 802.11 networking framework where devices communicate with eachother by first going through an Access Point (AP). In this mode, wireless devices can communicate with each other or with a wired network.

IP Address: The address of a computer attached to a TCP/IP network. Every client and server station must have a unique IP address. It can be provided by the user, network administrator, or obtained automatically.

LAN: Local Area Network. A computer network that exists over a small area. LANs are generally found in a single building or group of buildings. LANs can be connected to other LANs over any distance by telephone lines and radio waves. A system of LANs connected in this way is called a wide-area network (WAN).

MAC address: (also called an Ethernet address) is a number which uniquely identifies a computer that has an Ethernet interface.

Open Key: A means of client authentication between the wireless NIC and the AP. Open key authentication involves supplying the correct Service Set Identifier (SSID).

Shared Key: A means of client authentication between the wireless network interface card (NIC) and the AP. With shared key authentication, the AP sends the client device a text packet that the client must then encrypt with the correct WEP key and return to the AP.

USB wireless adapter: a wireless device that attaches to a PC computer through a USB port.

WEP: Short for Wired Equivalent Privacy, a security protocol for WLANs. WEP is designed to provide the same level of security as that of a wired LAN by encrypting data so it is protected as it is transmitted.

Wi-Fi: Short for wireless fidelity. The term is commonly used when referring to any type of 802.11 network.

Wireless Adapter: a wireless PCMCIA card, integrated adapter, or USB wireless adapter that inserts into a PC laptop computer.

WLAN: A wireless LAN that transmits over the air, typically in an unlicensed frequency such as the 2.4GHz band.

Appendix

Specifications

Temperature Operating	50 to 104° F (10 to 40° C) at sea level 50 to 95° F (10 to 35° C) at 10,000 feet -4 to 158° F (-20 to 70° C)	
Altitude Operating Non-operating	0 to 10,000 feet (~ 3,000m) 0 to 20,000 feet (~6,000m)	
Humidity	10% to 95% relative humidity, non-condensing 50 to 104° F (10 to 40° C)	
Dimensions	.83 in x 2.56 in x 3.66 in (21mm x 65mm x 93mm)	
Weight	6.17 oz (175g)	
Port	MI-D	
Range	Up to 300 ft (100m)	
Data Rate	l I Mbps	
Input	5V DC @ 750mA	

Accessories

The LiteShow system comes with the following accessories, except where noted:

Included Accessory	Part Number
LiteShow adapter	591-0260-01
Wireless adapter *	412-0003-xx
Protective sleeve	0-0682-xx
CF Card for LiteShow adapter	412-0006-xx
LiteShow Adapter plastic cover	340-1078-xx
User's Guide	010-0449-xx
Quick Start Guide	009-0801-xx
LiteShow CD	010-0446-xx

 * when purchased with the LiteShow system with a bundled wireless adapter from 3COM.

Compatible projectors

The following table contains projector models that have been tested and are known to be compatible with the LiteShow wireless projection system. Visit our website at **www.infocus.com/service/liteshow f**or the most updated list of compatible projectors.

InFocus		ASK Proxima
LP70/LP70+	LP820	C110
LP120	LP840	C160
LP130	LP850	C170
LP335	LP920	C180
LP340	LP925	C410
LP350	LP930	C420
LP500	X2	C440
LP530		C450
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LP640		
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LP815		

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One-Year Warranty

Limited Warranty

Subject to the Limitations, Exclusions and Disclaimers hereof, InFocus Corporation ("InFocus") warrants that the Projector, Lamps and Accessories (hereinafter collectively or individually referred to as "Product" as appropriate) purchased from InFocus, an InFocus distributor, or an InFocus reseller will conform to InFocus' specifications and be free from defects in material or workmanship for the respective Limited Warranty period provided below. InFocus does not warrant that the Product will meet the specific requirements of the end-user customer.

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Product Limited Warranty Period: One (1) year from date of purchase.

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To Obtain Warranty Service

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InFocus Customer Service - 1-503-685-8888 or visit www.infocus.com/service

For Warranty service, the purchaser will be advised to return or deliver the defective Product freight and all fees pre-

paid, to an InFocus Service Center or to a service facility authorized by InFocus. When returning Product to InFocus, a Service Request Number (SR #) is required and must be clearly displayed on the outside of the shipping carton or a similar package affording an equal degree of protection. InFocus or the service facility authorized by InFocus will return the repaired/replaced Product freight prepaid to the purchaser.

Products returned for Warranty service must be accompanied by a written letter that: (i) explains the problem; (ii) provides proof of date of purchase; (iii) provides the dealer's name; and (iv) provides the model and serial number of the Product. Upon request of InFocus Corporation or an authorized repair center for InFocus, proof of legal import must accompany the warranty repair Product, otherwise the Product must be returned to the place of original purchase, to the manufacturer (Purchaser must bear all tax, duty and freight), or the Purchaser must bear charges for the warranty repair.

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LiteShow[®] wireless freedom for your projector.

USER'S GUIDE



InFocus Corporation

27700B SW Parkway Avenue Wilsonville, Oregon 97070-9215 1-800-294-6400 • 503-685-8888 Fax: 503-685-8887 http://www.infocus.com

In Europe:

InFocus International BV Strawinskylaan 585 1077 XX Amsterdam The Netherlands Phone: +31 20 579 2000 Fax: +31 20 579 2999

In Asia:

238A Thomson Road #18-01/04 Novena Square Singapore 307684 Telephone: (65) 6334-9005 Fax: (65) 6333-4525



010-0449-02